

# HCERES

High Council for the Evaluation of Research  
and Higher Education

Research units

HCERES report on research unit:

The Centre for Cognitive Neuroscience

CCN

Under the supervision of the following  
institutions and research bodies:

Université Claude Bernard Lyon 1 – UCB

Centre National de la Recherche Scientifique – CNRS

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*In the name of HCERES,<sup>1</sup>*

Didier HOUSSIN, president

*In the name of the experts committee,<sup>2</sup>*

Beatrice DE GELDER, chairwoman of the  
committee

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Under the decree No.2014-1365 dated 14 november 2014,

<sup>1</sup> The president of HCERES "countersigns the evaluation reports set up by the experts committees and signed by their chairman." (Article 8, paragraph 5)

<sup>2</sup> The evaluation reports "are signed by the chairman of the expert committee". (Article 11, paragraph 2)

## Evaluation report

This report is the result of the evaluation by the experts committee, the composition of which is specified below.

The assessments contained herein are the expression of an independent and collegial deliberation of the committee.

Unit name:	Centre for Cognitive Neuroscience
Unit acronym:	CCN
Label requested:	UMR
Present no.:	UMR 5229
Name of Director (2014-2015):	Mr Jean-René DUHAMEL
Name of Project Leader (2016-2020):	Ms Angela SIRIGU

## Expert committee members

**Chair:** Ms Beatrice DE GELDER, Maastricht University, NL

**Experts:**

- Ms Catherine BARTHELEMY, Université de Tours
- Mr Pascal MAMMASSIAN, École Normale Supérieure, Paris (representative of the CoNRS)
- Mr Pierrick POISBEAU, Université de Strasbourg (representative of the CNU)
- Ms Eleni SAVAKI, University of Crete, Grece
- Mr Wolfram SCHUTZ, Cambridge University, UK

**Scientific delegate representing the HCERES:**

Mr Jacques NOEL, Scientific Delegate

**Representatives of the unit's supervising institutions and bodies:**

- Mr Denis FOUQUE, University Claude Bernard Lyon 1
- Mr Remi GERVAIS (director of Doctoral School n° 476)
- Mr Jean Louis VERCHER, CNRS

# 1 • Introduction

## History and geographical location of the unit

Created in 2007 as an "Unite Mixte de Recherche", the Cognitive Neuroscience Centre (CNC) is located in the University campus in Bron near Lyon within the "Institut des Sciences Cognitives" (ISC). It is dedicated to research on the neural mechanisms of cognition and its disorders and is situated in close vicinity to several hospitals (the Neurology Hospital, Hôpital Edouard Herriot, Vinatier psychiatric Hospital). For the next contract the lab will claim the label "Institut de Science Cognitive Marc Jeannerod".

## Management team

Seven independent teams compose the Centre for Cognitive Neuroscience. The CNC is now under the directorship of Mr Jean-René DUHAMEL and will be directed by Ms Angela SIRIGU for the next term.

## HCERES nomenclature

SVE1\_LS5 Neurosciences

SHS4\_4 Sciences et techniques des activités physiques et sportives

SVE1\_LS4 Physiologie, Physiopathologie, Endocrinologie

## Unit workforce

Unit workforce	Number as at 30/06/2014	Number as at 01/01/2016
<b>N1:</b> Permanent professors and similar positions	12	12
<b>N2:</b> Permanent researchers from Institutions and similar positions	12	11
<b>N3:</b> Other permanent staff (without research duties)	8	7
<b>N4:</b> Other professors (Emeritus Professor, on-contract Professor, etc.)		
<b>N5:</b> Other researchers (Emeritus Research Director, Postdoctoral students, visitors, etc.)	15	6
<b>N6:</b> Other contractual staff (without research duties)	10	5
<b>TOTAL N1 to N6</b>	<b>57</b>	<b>41</b>

Unit workforce	Number as at 30/06/2014	Number as at 01/01/2016
Doctoral students	35	
Theses defended	17	
Postdoctoral students having spent at least 12 months in the unit	14	
Number of Research Supervisor Qualifications (HDR) taken	9	
Qualified research supervisors (with an HDR) or similar positions	15	18

## 2 • Overall assessment of the unit

### Global assessment of the unit

The Centre for Cognitive Neuroscience has the competitive strength in neuroscience in the international domain essential for the understanding of the behavioural and neural basis of complex behaviours and the treatment of neurological disorders. The common interest of the five teams converge upon the study of the behavioural dimension and the neural basis of spatial perception, motor control, attention, decision making, reward structure and social cognition.

### Strengths and opportunities in relation to the context

It was apparent to the experts committee that the unit is open to exploring new themes for inter- and transdisciplinary research and investigating new areas in a creative fashion. Examples of this are social cognition in human and non-human species, rewards and neuroeconomics, schizophrenia and quite a few others. Multiple methods were in use and new ones are being devised such as linking PET and fMRI measurements, monkey modelling of Parkinson Disease, and the notion of two different reward systems. Other equally groundbreaking developments are under consideration such as remote wireless recording of some brain structures, for example the amygdalae. The experts committee observed the deliberate objective to combine non-human and human approaches when feasible, often resulting in integrated methods. Development is underway this year to integrate fMRI and PET, a process that will have huge payoff in interaction and efficiencies and likely present unique possibilities.

The breadth of themes in the work is considered appropriate for the size of the teams and the number of researchers.

### Weaknesses and threats related to the context.

No major weaknesses of the governance and the staff were noted. The experts committee did observe that the training period for technical people was long and feel that more engineers are called for. There also appeared to be a lack of long-term perspective for technical support personnel. The housing for monkeys seemed rather limited even at the current number of scientists and especially if the number of projects increases in the future.

There is a possible threat that the new fMRI facility may not be funded for non-human primate research although the University representative informed the experts committee that this funding was now assured. The experts committee feels that the funding could be extended by selective collaborations inside EU grants.

The panel believes that more could be done to integrate the clinical staff that have full-time positions. They may have different priorities but their contributions could facilitate the work of the researchers.

### Recommendations

Based on its reading of the reports and its site visit the experts committee is in a position to formulate a few recommendations. One is to facilitate more organized inter-team consultations between the members of the different teams, including at the level of the technical support staff. For example, regular contacts that include the technical staff might allow not only exchange of methodological insights but also the joint development of new solutions and developments. It may also be important to promote increased awareness of novel solutions to the methodological and technological challenges, some of which are to be expected and others sometimes unexpected.

A second recommendation is to continue to provide more integration between the clinical and the research staffs. Ideally there should be continuous two-way traffic between the two. This would allow the group to maximize the unique signature of this unit where both theoretical and clinical approaches are uniquely represented.

Finally, the experts committee would like to encourage more informal scientific meetings amongst the different teams to stimulate interactions. This interaction might reveal novel and rich solutions to the different questions addressed by each of the teams.